

CHAPTER 2

PROPOSED ACTION AND ALTERNATIVES

The alternatives developed within this planning process offer a range of actions combining differing strategies for the management of natural resources and human uses. A different composition of actions and management strategies is proposed under each. However, some actions and management strategies were evaluated as being appropriate to include in every alternative. Rather than list these items repetitively under each alternative description, they are included below under "Management Common to All Alternatives".

The alternatives descriptions following will focus on actions and management strategies that differ between the alternatives.

The Bureau's Proposed Action is described in Alternative *.

MANAGEMENT COMMON TO ALL ALTERNATIVES

The objectives, goals and actions listed below would be implemented under all alternatives.

Biodiversity - includes the issues concerning biodiversity, ecosystem management, and wild horses & burros

Biodiversity Preservation:

Continue to conduct raptor nesting surveys, with emphasis on monitoring areas where Peregrine falcon may be nesting to, confirm actual nesting status. If confirmed, monitor and evaluate recreation activity occurring and determine restrictions needed, if any. (App. 1, Part A.)

Ensure full compliance of the Blue Diamond Cholla Conservation Agreement; discourage recreational use of Blue Diamond Hill; inventory adjacent areas for potential additional occupied habitat. (App. 2)

Install a bat gate at Wounded Knee Cave (Townsend's Big-eared bat maternity colony; *Myotis* spp.). (App. 6, Species List, Bats)

Remove/rehabilitate unauthorized trails within Pine Creek WSA.

Monitor cumulative recreation use impact on Bridge Mountain (biodiversity hotspot; global population of *Ionactis caelestris*). (App. 2, Priority Management Areas)

Re-emphasize conservation management for the North Fork Pine Creek Canyon Natural Area (biodiversity hotspot) with emphasis on:

- Sensitive species, including Spring Range endemics (*Astragalus*

- remotus; Angelica scabrida)
- 9 species of fern or fern allies, including Polystichum scopulinum (rare in Nevada)
- 2 spikemosses, both rare in NV (Spring Range only) - Selaginella leucobryoides; S. utahensis (only RRCNCA population)

Implement management actions to preserve and ensure habitat suitability for native wildlife species; minimize habitat fragmentation from roads; work as a partner in implementing the Clark County Multi Species Habitat Conservation Plan. (App. 1, Part C., Special Status Species)

Ecosystem Management:

Implement strategies to minimize type conversion fires stemming from invasive exotic annual grasses.

Implement aggressive fire suppression policy for all fires in low elevation communities (Blackbrush).

Establish "Limits of Acceptable Change" and monitor dispersed recreational use impacts focused on, but not limited to, riparian areas and other high density visitor use locales.

Visitor Education/Environmental Awareness:

Modify existing brochures/visitor information services to discourage recreational use in biologically sensitive areas (North Fork Pine Creek Canyon; Bridge Mountain; La Madre Spring).

Devise signing/visitor outreach program to publicize Red Rock's significant biological quality and value:

- Landscape ecosystem integrity, high biodiversity, endemism (rarity of both species and communities);
- Threats to biological and ecosystem integrity.

Recreation/Trails/Access Issues:

Reroute existing Bridge Mountain trail to remedy erosion problems and avoid key biodiversity hotspots on Bridge Mountain.

Riparian, Air and Vegetative Resources - includes issues associated with riparian restoration, air quality and vegetation.

Riparian Restoration:

Eradicate non-native species with emphasis on tamarisk removal. (App. 15, Part A., Disturbed Habitat Areas)

Ensure proper functioning condition of riparian areas. Restore surface flow for riparian vegetation where they have been decreased or eliminated by diversion or impoundment. (App 10, Inventory of Springs)

Restore spring brook flows and riparian areas in Red Spring and Willow Spring to ensure adequate habitat for springsnails (pyrgulopsis deaconi and P. turbatrix). Maintain protective fencing around key habitat areas, springs and riparian areas as needed.

Implement protective measures at degraded spring sites sufficient to allow natural revegetation to occur (Shovel; Mud #1; Lone Willow; Schumacher). Utilize fencing only as a last resort. Remove fencing if factors causing degradation are mitigated.

Design all future trails to minimize impacts to riparian areas.

Riparian water resources would be protected from wild horse, burro and human impacts. Fences, if required, would be designed to meet wildlife needs and adequate water would be made available outside the fenced water source for wild horses, burros and equestrian use.

Most wild horse and burro trails lead to water which creates natural routes for recreationists into these sensitive areas. A complete review of the trail system would be undertaken to reroute existing human use trails away from waters and determine which trails can be mitigated and remain in the Herd Management Area.

Maintenance or reconstruction of historic projects or development would be completed to assure dependable water availability for wild horses and burros, riparian resources, wildlife and equestrian horse use. Water developments which divert 100% of available waters would be evaluated to determine the feasibility of reconstruction to reduce the amount diverted and restore natural riparian systems.

The actual range improvement implementation schedule, determination of Appropriate Management Levels (number of wild horses and/or burros), and project specifications would be addressed in a Herd Management Plan (HMP). The HMP is an activity level plan that tiers off this plan and the Las Vegas Resource Management Plan and is consistent with the management decisions of these plans.

For proposed maintenance, reconstruction or construction of water projects, the following stipulations would be required:

1. The Interim Management Policy For Lands Under Wilderness Review (IMP) procedures and guidance would be followed (or the Wilderness Management Act or Plan if Congress has designated any of the lands as wilderness).

2. Projects would comply with the visual resource management class(es) for the project site.
3. Diversion structures (headbox) shall be located below the spring source and/or existing/rehabilitated riparian area to ensure that adequate waters are provided for riparian purposes, to maintain springbrooks where they exist and to limit disturbance within riparian areas. In most existing improvements all waters are captured at a headbox located at the spring source (Mud Spring #1, White Rock Spring, Willow Spring, Bird Spring, Wilson Tank/Tunnel Spring). If further development takes place at these locations, the headbox would need to be relocated to allow an adequate riparian area to be protected and meet proper functioning condition objectives. All pipelines would be equipped with a float or flow control device designed to limit water diversion to the amount required to keep the drinking trough full of water.
4. No more than 25% of available waters may be diverted. This continues the allocation decision made in the (Interim) General Management Plan for RRCNCA in 1995.
5. No development of minor seeps or wet spots which produce no measurable water flow would be allowed.

Wild horses and burros in the Wheeler Pass HMA would be managed in accordance with the Interagency Agreement between BLM and USFS, the Toiyabe National Forest Plan, Spring Mt. National Recreation Area Amendment, and the Las Vegas Resource Management Plan. The Forest Service has the lead for wild horse and burro management in this HMA. The Forest Plan decision was to remove all animals in the Kyle, Deer Creek (Lucky Strike) and Lee Canyon drainages and manage for 26 horses in the Cold Creek area. That decision would be adopted and implemented cooperatively with the Forest Service. A future BLM Herd Management Plan may have a different allocation of wild horses and/or burros (AML) on BLM lands in the HMA.

Air Quality:

Pave, or treat with soil stabilizers, all high use dirt roads and parking areas to reduce creation of suspended particulate matter (PM 10) in conformance with local government's efforts to improve air quality within the Las Vegas Valley Non-attainment Area. Primary focus will be on areas around the Scenic Drive, the campground and the Red Spring Picnic Area.

Vegetation:

Continue to inventory NCA lands to more accurately determine the location and population density of plants listed as threatened, endangered or sensitive by Federal or State agencies. (App. 1,

Special Status Species)

Maintain or improve the condition of vegetation to a potential natural community or desired community. Desired community will be determined for those sites with limited potential for improvement.

Maintain a canopy cover of 20% (minimum), a basal cover of 5% (minimum) perennial native grass species, and manage for perennial native grass species composition (by dry weight) of 5-10%, as limited by potential natural community, an established desired plant community or site improvement potential.

Restore plant productivity on disturbed areas.

Rehabilitate, reclaim or revegetate, with native species, areas subjected to surface disturbing activities and closed roads, where feasible.

State of Nevada Water Rights

Prior to the development of any water project, where there is a State water right the State of Nevada will be consulted for their review and concurrence in compliance with the Memorandum of Understanding between BLM and the State covering waters in the NCA (Jan. 12, 1981 as amended April 4, 1997). This includes the following springs - Red Spring, White Rock Spring, Lone Grapevine spring, and Mud Spring # 1.

Recreation Opportunities - includes the issues concerning camping, rock climbing, target shooting, trails and roads

Camping:

Expand the public education program of "Leave No Trace" recreation ethics and land stewardship.

Complete the Mile 13 Campground.

This will be the only campground designated in the NCA, with approximately 100 individual/family sites and 10 group sites.

After completion of the Mile 13 Campground:

- close Oak Creek Campground;
- continue closure of the Black Velvet area to camping;
- close 10-mile Canyon to camping usage;
- discontinue use of the "Spanish Trail" overflow camp area

across from the James-Hardie Gypsum Plant.

Camping along Rocky Gap Road or on the Escarpment will be authorized by permit only.

From La Madre Mountain to the Forest Service/BLM boundary, 3 miles south of SR 160, camping will be managed as follows: (see following "Camping" map)

- camping northwest of the 6,500 ft elevation contour on La Madre Mountain does not require a permit;
- camping west of the Spring Mountains ridge-line does not require a permit;
- within the Pine Creek WSA, camping between the Spring Mountains ridge-line and eastward to the canyon floor (4,400 ft. contour) requires a BLM camping permit;
- no other camping is allowed in this area except in the designated campground, unless specifically agreed upon in writing by an authorized BLM representative.

Hunting:

The center or "core" area of the NCA would remain closed to the use of firearms, and therefore hunting, as a result of public safety concerns due to the intensity of recreation activity in this area.

This core area can best be described as the area bounded by State Route 160 on the south, La Madre Mt./Little Red Rock on the north, Summerlin on the east and the sandstone cliffs on the west. An exception to the closure is specific sections in the Brownstone Canyon area that are open to bighorn sheep hunting as allowed by the State of Nevada.

All other areas in the NCA would be open or closed to hunting under the regulations and seasons set by the State of Nevada. The closure of the Cottonwood Valley trails south of State Route 160 for the week before and the first two weekends of upland game bird season in October would continue.

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Rock Climbing:

Liaison Council

Manage rock climbing in partnership with the climbing "Liaison Council" (LC) composed of representatives from the local community, permittees and/or sports shop interested in representing the climbing community in information exchange and issue resolution with the NCA staff.

Coordination efforts between the LC and the BLM would include:

- proposals for bolt replacement on wilderness climbing routes;
- working together to organize resource protection projects, such as designated approach routes to avoid trail braiding, or removing chalk, ropes and slings from climbing surfaces;
- joint efforts to inform non-local climbers of NCA policies and regulations and keep local climbers updated on any new and relevant information;
- maintaining communications, keeping each other up to date on pertinent information and constituent concerns;
- Possible changes to climbing management in the NCA in the future.

Climbing Restrictions

The climbing restrictions listed below are identical to those adopted in the 1995 "Interim" GMP. No changes have been made.

The BLM is engaged in long-term monitoring of various RRCNCA plants and animals. If raptor nest sites are found, climbing restrictions may be imposed during critical nesting periods. Should any T&E species become an issue, appropriate mitigation actions will be taken.

Alteration of the rock surfaces by gluing, chipping or chiseling, is not allowed.

Cultural resources restrictions include the following:

- no climbing allowed within 50 feet of rock art.
- known cultural sites, such as in Sandstone, Willow Spring and Red Spring, will be signed to alert climbers about restrictions.

No permanent fixed ropes or cables for climbing or belaying

purposes would be allowed.

Bolting is not allowed in the following locations:

- Sandstone Quarry area within 1/4 mile from each side of the parking area

The Sandstone Quarry area has an abundance of cultural resources and is considered a historic area because of the quarry and related artifacts. To avoid detracting from the visual experience of scenic viewers and because of the abundance of cultural resources, no new bolting will take place in the vicinity as stated above.

- Within the Wilderness Study Areas (WSAs)

The placement of new bolts will not be allowed in WSAs (or in future designated wilderness). The Pine Creek and La Madre Mt. WSAs are recommended for Wilderness designation. Should the (eventual) Congressionally designated boundaries be different from those proposed, NCA policy and management will adjust accordingly.

- Replacement of existing bolts in the afore mentioned locations should be presented to the Liaison Council for review.

BLM strongly encourages the use of the following equipment:

- the "Bison Ball", "X-Factor" or the like, as opposed to an open chalk bag;
- tinted bolts and hangers which blend with the rock face;
- drab colored web gear, when used for a rappel anchor.

Commercial Climbing

The following policies are designed to provide adequate access to commercial services for visitors while avoid overcrowding and maintaining continued access for commercial outfitters and guides.

1. The number of commercial (outfitter and guide) rock climbing permits, authorizing full time year-round use, will be limited to no more than six at any one time. In addition, ten "guest permits" will be available to allow limited use to commercial operations who wish to offer Red Rock Canyon as an option to clients. The guest permits will be limited to two visits, of up to five days per visit, in a calendar year (one ten day visit is permissible). There is no guaranteed renewal of guest permits. If the situation arises where there is more interest than permits available, some form of lottery may be implemented. (This continues the current situation.)

2. In order to ensure adequate access to commercial outfitter and guide services, a minimum use standard would be implemented. Regular full time permits not utilizing a minimum of 100 visitor days per year for two consecutive calendar years would be canceled. This standard would be implemented the first full year following completion of this plan so the standard would have to be met in the years 2000 and 2001 for a permit to remain active. (for additional permit information, see section on "permits" in this document)
3. Commercial group size in any one area is limited to 10 students plus instructors. (Current situation)
4. No more than two different commercial groups may use the Sandstone area, the Gallery, Kraft Rock, Calico I, Willow Spring/Lost Creek or Pine Creek at any one time. The two groups may not be operating under the same permit. (Current situation)
5. Full time permittees must provide a list of guides working for their guide service and will assume full responsibility for the actions of all guides listed.
6. There is no subcontracting of climbing permits. Any climbing service working with Red Rock Canyon permittees must do so as clients and must be accompanied by a guide representing the permitted service while operating in the Red Rock Canyon National Conservation Area.

Scenic Drive Access

Early Access Permits - Early access to the Scenic Drive may be attained by registering a day ahead with the Visitor Center. The desired climbing route must be one that justifies the additional time. No more than two parties will be granted early access for any one day. (This continues current management direction.)

Late Exit and Overnight Parking Permits - Parking on the Scenic Drive at Willow Spring, Ice Box, Pine Creek, Oak Creek or other designated sites, after closing hours, may be authorized by an after hours permit, which can be obtained at the Visitor Center.

To avoid waiting for the Visitor Center to open, permits should be filled out prior to the day of the climb. Late Exit permits are only issued for long one-day climbs where even with an early morning start, it is likely that return to the trailhead will occur after the Scenic Drive's posted closing hours. Late Exit permits will not be issued to climbing parties who simply begin their trip late in the day. Overnight permits will only be issued for certain routes that have been determined to be multi-day climbs requiring an on-wall bivouac. (This continues current management direction.)

Camping at the base of the escarpment would not be allowed. The intention of "bivouac" is an overnight stay on the rock wall, above the base, on a multi-day climb. (Current policy.)

Trails: (the following trails actions are included on the trails maps for each alternatives)

The complete trail system in the NCA would be reviewed and each trail designated for specific uses or combination of uses. Until designations are completed, incidental biking, riding and hiking would be allowed to continue on existing trails. Restrictions may be implemented during periods of heavy recreational use. Any wild horse and burro trail not now designated for recreational use would not be open to organized recreational events.

Mountain bikes would be allowed on designated trails only.

Portions of the trail network designated in the Cottonwood Valley Mountain Bike and Equestrian EA would be realigned to accommodate the new underpass access points on SR 160.

Monitor the existing designated trails in the Scenic Drive vicinity south to First Creek. Implement limited use designations if necessary to mitigate excessive impacts.

Designate the first half of the Grand Circle Trail, from the Visitor Center to the White Rock entrance, for hiking only.

The Pine Creek, Ice Box and Lost Creek trails would be designated for hiking (foot traffic) only.

The Dale Trail (Pine Creek to Ice Box) and the SMYC Trail (from Ice Box to Lost Creek) portions of the Escarpment Base Trail would be designated for hiking only.

Designate the First Creek Trail and Brownstone access (beyond the gate) for hiking and equestrian use only (no mountain bike use).

Provide an access (hiking and horses) to Kraft Rocks and Gateway Canyon.

Construct the final portion of the Escarpment Base Trail (between First Creek and Oak Creek) and designate for hiking and equestrian use.

Continue to work with Clark County and the Howard Hughes Corporation to develop and implement a coordinated trail system.

Roads:

Dirt roads which would remain open in NCA core area (North and west

of the Bird Spring Range and south of La Madre Mountain) include the following:

- Rocky Gap road
- White Rock road (planned for paving)
- Oak Creek, Scenic Drive (planned for paving)
- Rainbow Spring (close 1/4 mile downstream of spring)
- Wildhorse Loop roads and access to Black Velvet area
- Cottonwood Valley road (to Good Springs)
- Access roads to private inholdings
- Access road to 13-mile Campground (closed beyond)

Access routes which require coordination with adjacent private landowners to determine future status:

- Calico Basin
- Little Red Rock (BLM and the Howard Hughes Corporation (THHC) have reached a preliminary agreement that will allow for public non-motorized hike/equestrian trail access as part of valley-wide trail system)
- Brownstone Canyon access road, up to gate (BLM and THHC have reached a preliminary agreement that will allow for continued public access (motorized, foot and horse) through THHC lands to public lands. The BLM closure gate would remain in place.)

Other dirt roads in the core area will be gated for administrative use only or closed and allowed to revert to a natural state.

Construct Calico III parking area between Calico II and Sandstone Quarry

Calico III will accommodate long term parking, while Calico I and Calico II will limit parking duration to better serve short-term visitors.

The roads labeled 14, 15, 16 and 17 (Map) fall within the La Madre Mountains Wilderness Study Area (WSA). Until Congress decides the wilderness designation issue, the study area must maintain the character that made it eligible for wilderness consideration.

Roads 14 and 15 were used prior to WSA designation and thus use of the roads may continue at this time. However, both roads will be closed if they eventually fall within designated wilderness, since neither road is cherry stemmed (altering wilderness boundary around roads to allow them to stay open).

Roads 16 and 17 will be closed until Congress decides the wilderness issue, since they were not in use prior to the WSA designation. If they eventually fall within designated wilderness, they will remain closed. If 17 falls outside of eventual wilderness designation, it may be opened for public

use.

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INSERT MAP# M18

Commercial Use

Commercial uses have grown steadily in the last five years. The major commercial uses for many years were tour bus trips and rock climbing schools. However, an increasing public interest and demand has generated new business interest in guided jeep (4X4) tours, horse rides and bike tours. Several businesses have expanded or been started to meet this demand. There have been no market surveys comparing the public demand for commercial services, the number of vendors and their impact on the NCA. Because of this lack of information, it is important to adequately monitor both use and impacts as compared to the number of vendors permitted.

In order to avoid establishing use patterns that might be detrimental to the NCA, and to give a benchmark for analysis, initial allocations of commercial permits would be established as listed below. As monitoring results are evaluated, the number of permits could increase or decrease in the future. Initial permit allocations will be as follows:

Guidelines carried forward from the Interim GMP:

1) Rock Climbing Guides and Schools

6 year-round permits

10 limited access "guest" permits

2) Guided Horse Ride Operations

5 permits (with no trail/use area overlap allowed between permittees)

3) Bus and Limo Tours (on Scenic Drive)

No limits on number of tours

Guidelines proposed for implementation:

4) 4X4 Vehicle Tour Operations (on designated roads)

5 permits

5) Guided Bike Tours

5 permits (includes mountain bike and road bike touring)

6) Guided Interpretive Hikes

5 permits

Film permits, including still photography and video, are considered "land actions". Land use authorizations are processed on a case-by-case basis as proposals are received. The authorization process involves analysis of potential impacts to the environment that could result from the proposed action. An Environmental Assessment or an Environmental Impact Statement, if appropriate, is prepared and resource protection stipulations are developed prior to the approval of such uses.

New types of commercial uses proposed will be evaluated to determine if they are appropriate and consistent with NCA management guidelines, and if so, initial permit limits will be set.

Cultural Resources

Locate trails and human activities away from cultural and paleontological sites so that physical damage does not occur.

Inventory the known historic and prehistoric sites acquired in the 1994 additions to the NCA. Submit 36 CFR 60.4 National Register of Historic Places nominations for eligible sites.

Coordinate with Native American interests on educational, interpretive and other related program activities.

Enhance partnerships using volunteers to conduct photo monitoring and patrolling of sites to monitor recreational use.

Maintain existing interpretive exhibits at the Visitor Center, Willow Spring/Lost Creek, Sandstone Quarry, White Rock, Rocky Gap, La Madre Spring and the Red Spring Project Plan.

Maintain vehicle closure at Brownstone Canyon.

Install educational/interpretive signs at the Gallery, Brownstone Canyon, Sandstone Quarry, Lone Grapevine Spring, the Spanish Trail, Cottontail, Cottonwood Valley, Lucky Strike and Grassy Spring.

Provide BLM sponsored guided activities at cultural sites where management deems safe for the resources.

Protect sensitive rock art panel at Brownstone Canyon. Consider placing a low level fence in front of the site along with an interpretive sign if this would be the minimum tool to protect the panel. Consider additional protective measures if fencing is not successful.

Native American Concerns

Solicit Native American comments on proposed actions which may have an impact on cultural resources or Native American values. Where

possible, provide partnership opportunities for Native Americans to express their interest at RRCNCA.

Work closely with the USDA Forest Service, Spring Mountain National Recreation Area, to develop coordinated management direction regarding Native American relations.

Locate trails and human activities to avoid impacting cultural sites.

Enhance existing Visitor Center cultural exhibits by incorporating local Native American beliefs and knowledge.

Allow for Native American use of sensitive resources when involved with traditional ceremonial purposes.

Invite Native Americans to present cultural/educational activities for volunteers and the general public at RRCNCA.

Land Acquisition

The BLM will consider acquiring undeveloped inholdings within the NCA through exchange in order to:

1. Facilitate access to public lands and resources
2. Maintain or enhance important public values and uses
3. Maintain or enhance local social and economic values
4. Improve management efficiency through the blocking up of public lands
5. Facilitate implementation of other aspects of the GMP

Developed inholdings will only be considered for acquisition if they would contribute to better management of the NCA.

Utility/Rights-of-Way (ROW) Avoidance

Utility and transportation development are not normally compatible with the objectives of the NCA, but in rare cases, may be permitted based on consideration of the following criteria:

1. Type of and need for the proposed facility,
2. Conflicts with other existing or potential resource values and uses,
3. Availability of alternatives and/or mitigation measures.

ALTERNATIVE 1

This alternative has the most proposed water development projects, facilities and associated recreation opportunities. Access would be more readily available with a more extensive trail system and fewer roads being closed. Biodiversity enhancement would be less encompassing than in other alternatives with fewer specific enhancement actions being proposed. This alternative provides for the management of wild horses and burros at a population level appropriate for the habitat and restricts recreation use to limit impacts on wild horses and burros. In general, all waters would be available and many would be developed for wild horses and burros, wells would be developed (outside the NCA) to disperse wild horse and burro use and riparian areas would be protected through fencing. Trails would be designated for specific uses. Timing of access would be controlled, use of wild horse trails by recreationists would be restricted, and the trail system would utilize more of the dirt roads available in the HMA. The actual implementation of wild horse and burro decisions and specific Appropriate Management Level (AML) determination; project specifics and locations; and specific management actions would be addressed in a Herd Management Plan. To facilitate the urban interface situation, numerous facilities (water developments) would be needed to enhance management and protect resource values.

This alternative includes the actions listed in the Management Common To All Alternatives and the Standard Operating Procedures as well as the actions listed below.

Biodiversity - includes the issues concerning biodiversity, ecosystem management, and wild horses & burros

Biodiversity Preservation:

(See Management Common to All Alternatives)

Ecosystem Management:

(See Management Common to All Alternatives)

Wild Horse and Burro Management:

The Red Rock Herd Management Area (HMA) would be amended from the boundary decision of the Las Vegas Resource Management Plan (10/98) with the addition of the Calico Basin area and the lands east of Calico Basin surrounding the new 13 Mile Campground.

Wild horses would be managed within the Red Rock Herd Management Area (HMA) in their primary use area south of Bonnie Springs to south of Bird Spring and the town of Goodsprings. The remaining portion of the HMA including the

area north of Bonnie Springs would be open to incidental horse use.

Burros would be managed in their primary use area from Bonnie Springs north and east to White Rock and the Red Spring (Calico Basin) area. The remainder of the HMA would be open to incidental burro use. Burros that become acclimated to tourists and beg for food along State Route 159, creating a nuisance and public hazard would be removed.

To accommodate the public interest in wild burros within the Red Rock HMA, burro viewing areas would be developed on SR 159 (after approval by the Nevada Department of Transportation (NDOT)). These areas would be fenced to keep the burros off the highway. Information signs will be placed at each viewing area giving the history of the Red Rock animals and the 1971 Wild Free-Roaming Horse and Burro Act. No viewing areas for wild horses in Red Rock HMA or horses or burros in the Wheeler Pass HMA are planned but may be needed at a later date.

Both sides of SR 159's right-of-way would be fenced to provide for the safety of motorists and burros. Development of underpasses that allow wild burros to make use of both sides of SR 159 would be proposed to NDOT in order to mitigate the fragmentation of the Red Rock HMA due to fencing. The existing deep wash near the RRCNCA visitors center will be evaluated as a potential underpass site for wild burros to cross SR 159. Training of the animals to use the underpass(es) would be accomplished by passive management, such as periodically placing water or feed at the underpass(es). The Wheeler Pass HMA will be assessed for the need to fence the highway rights-of-way and to locate potential sites for underpass(es).

During the foaling season of March thru May, organized biking, equestrian and hiking events would not be authorized, unless specific impacts to wild horses and burros can be mitigated.

Incidental biking, riding or hiking would be permitted. Signs would be posted at all underpasses advising the public of wild horse and burro use and restrictions to vehicle parking within 1,000 feet of underpasses (as well as the flood potential during storms).

Wild horse and burro numbers would be managed and maintained in a thriving natural ecological balance by conducting annual or regular herd removals. First efforts to remove animals would be through bait or water trapping. If this is unsuccessful, helicopter trapping would be used.

Resolve the HMA boundary questions and determine the future status of the band that inhabits the Calico Basin area. The following factors have combined to reduce the range quality

and cause habitat fragmentation in the Calico Basin area:

- habitat fragmentation due to fencing of State Route 159 and Calico Basin Road to eliminate off-road vehicle use;
- increased residential development in Calico Basin;
- rapid development of private lands on West Charleston Boulevard;
- and effective loss of the use of Red Spring, due to increased recreation use and fencing installed to aid in protection and recovery of the springsnail.

Proposed Water Developments; New, Maintenance and Re-construction

The following water project developments are proposed and may be implemented (after site specific project design and environmental analysis) in the Red Rock HMA to provide additional water for wild horses and burros. All developments would provide water for wildlife and riparian purposes (except non-riparian developments such as water hauls).

1. Permanent Water Haul Sites - storage tanks and troughs, numbers and locations not yet identified. Use of water haul sites may be an alternative to development of some of the springs listed below.
2. Mud Spring #1 - Reconstruct the existing development (spring box, pipeline, and trough).
3. Shovel Spring - Initiate development (headbox, pipeline and trough).
4. Willow Spring - Initiate development designed to move water out of the developed picnic area for wild horses and burros (pipeline and trough).
5. White Rock Spring - Initiate development to move water off site for wild horses and burros (headbox replacement, pipeline and trough). Desired water location is in the center of the Scenic Drive loop.
6. Red Spring - Initiate development to move water off site for wild horses and burros (headbox, pipeline and trough).
7. Pine Creek - Initiate development to move water off site for wild horses and burros (headbox, pipeline and trough). Concurrence from the State of Nevada would be required since the bottom (meadow area) of Pine Creek is State land.

8. Lone Grapevine Spring - Complete re-development to move water off site for wild horses and burros (headbox, pipeline and trough).
9. Wheeler Camp Spring - Initiate re-development to move water off site for wild horses and burros (headbox, pipeline and trough).
10. Wilson Tank/Tunnel Spring - Complete redevelopment for improved reliability (excavation, headbox, pipeline and trough). Since this source is such a low producer and geographically critical to wildlife, water yield needs to be evaluated to determine if any water remains available after wildlife needs are satisfied.
11. Bird Spring - Install a pipeline to move water off site (away from road) to reduce human influence and improve wild horse and burros use.
12. Wells - Develop 2-3 wells with associated pipelines to distribute use and reduce pressure on natural water sources within the HMA. NOTE - All proposed locations are in the southern portion of the HMA south and east of the NCA so this proposal is not analyzed in this document. See future HMA management plan.
13. Potosi Spring and Pipeline - Develop the spring by installation of a pipeline system with multiple troughs. NOTE - This area is on private and Forest Service lands and is not analyzed in this document. See future HMA management plan.
14. Cave Spring - Complete development to move water off site for wild horses and burros (headbox, pipeline and trough). NOTE - This site is not within the NCA and is not analyzed in this document. See future HMA management plan.

Sequence of short term actions:

1. Evaluate existing and potential water sources for maintenance needs, potentials and development costs. Investigate the potential for acquiring access to waters from private sources in the HMA adjacent to RRCNCA.
2. Maintain Tunnel (Wilson Tank) and Bird Spring developments to correct known maintenance needs, ensure more reliable water availability and move troughs away from roads.

3. If possible pipe water from Lone Grapevine Spring 1.5 miles southeast under State Route 160 to provide a water source immediately south of State Route 160 eliminating the need for horses to travel north of the highway for water. Along this pipeline provide a water trough(s) distant from Lone Grapevine Spring to draw animals away from the spring area and better distribute use patterns.
4. Determine the carrying capacity or Appropriate Management Level (AML) for both wild horses and burros in the HMA using an interdisciplinary resource team.
5. Using the desired plant community objectives in the GMP (discussed in Chapter 3), establish the criteria (range condition, water availability, riparian health) that must be monitored and analyzed .
6. Establish a minimum of one ten acre exclosure (660' x 660') in each identified habitat type to act as control plots for vegetation monitoring.
7. Conduct a scientifically valid inventory of vegetation condition, trend and frequency to establish baseline data.
8. Complete a Herd Management Plan (HMP) for the entire HMA including both lands within and lands outside of RRCNCA.
9. Complete development of additional waters as proposed in the HMP (both inside and outside of RRCNCA).

Sequence of long term actions:

10. Conduct annual trend studies to determine vegetative response and progress towards meeting desired plant community objectives.
11. Conduct annual utilization studies in both areas occupied by wild horses and burros and areas not used for comparison purposes.
12. Monitor vegetation trend, condition and utilization to ensure that desired plant community objectives are maintained.
13. Adjust animal population as required.

INSERT MAP# M19

Water, Air and Vegetative Resources - includes issues relating to riparian restoration, air quality and vegetation

Riparian Restoration:

(See Management Common to All Alternatives)

Air Quality:

(See Management Common to All Alternatives)

Vegetation:

(See Management Common to All Alternatives)

Recreation Opportunities - includes the issues concerning camping, rock climbing, target shooting, trails and dirt roads

Camping:

Dispersed camping would be allowed north of La Madre Mountain and east of the Bird Spring Range.

All camping, whether dispersed or in the designated campground, would be limited to a 14 day maximum stay. (Current situation)

No camping would be allowed within ½ mile of waters used by wild horses and burros. Camping outside of the wild horse and burro HMA would be restricted within 1/4 mile of any water source.

Allow limited camping by permit in Cottonwood Valley (for events only).

Target Shooting:

Designate a target shooting area at the mouth of the Lucky Strike Canyon two miles west of Highway 95 at the existing illegal dump/shooting site (see location on map accompanying the following Trails section).

Trails:

Mountain Bikes:

Close the Red Valley trail to mountain bike use due to conflicts with wild horses. The speed of the bikes and presence of blind turns on the existing wild horse trail have resulted in numerous near misses between biker and horse. Additionally, there are conflicts between bikers and equestrians due to speed and right-of-way issues. The trail would remain open to equestrian and hiker use

as their speeds are usually compatible with wild horse travel.

Designate the Oak Creek trails to include mountain bike use.

Designate the Blue Diamond to Jean route (portion within NCA) that has been used annually for a group ride event, subject to restrictions for wild horse and burro management (see Equestrian trails).

Designate the "Twilight Zone" trails north of the Kyle Canyon road.

Designate the old road from Willow to the Visitor Center to include mountain bike use.

Road bikes:

Pave the old road between Sandstone Quarry and Willow Spring to provide an alternative to the Scenic Drive between these two points. This will eliminate the most dangerous sections of the Scenic Drive and reduce the number of riders who turn around and ride the wrong way after being defeated by the steep hills beyond Sandstone Quarry.

Equestrian:

Encourage equestrian use of designated/existing trails to minimize impacts while continuing to allow dispersed (off-trail) use. The trail system would be reviewed to identify conflicts and to provide for wild horse and burro needs and recreation opportunities. Dirt roads would be the preferred routes as equestrian trails except where they lead to water sources.

Designate the following routes and trails to include equestrian use:

- the Blue Diamond to Jean route (portion within NCA) which has been used for an annual equestrian ride event;
- the existing equestrian route from First Creek to Lost Creek, out away from the base of the escarpment;
- the route (old road) that runs along a ridge top between the Oak Creek road/Scenic Drive intersection and Pine Creek Canyon;

- the section of the Arnight Trail from the upper Oak Creek trailhead to the intersection with the ridge trail mentioned above;
- the White Rock loop, Keystone Thrust and La Madre trails;
- the route (old road) from the White Rock/Scenic Drive intersection, due south to where it meets the Sandstone to Willow route (old road);
- the route (old road) that accesses Oak Creek from SR 159 (direct east-west route);
- the loop route directly north of Red Rock Vista;
- the existing routes from the Scenic Drive exit lot to adjacent trails;
- the portion of the Escarpment Base Trail from Oak Creek to Juniper Canyon.

Organized events would not be allowed unless impacts to wild horses and burros could be mitigated. Organized events would not be allowed to pass within ½ mile of waters except for equestrian events where the use would not conflict with normal watering times of the wild horses and burros. Typically, event use would not be allowed from 4 hours after sunrise and 4 hours before sunset.

INSERT MAP# M20

INSERT MAP# M21

Dirt Roads:

The following maps indicate which dirt roads are to be closed and which will be left open. The status of dirt roads from La Madre Mountain south through Cottonwood Valley is the same for all alternatives and can be seen under Management Common To All Alternatives. Minor dirt routes not indicated on the maps are to be closed and used only for administrative purposes or targeted for restoration to a natural state.

Paved Roads:

Construct a 2.65 mile return road from Sandstone Quarry to the Visitor Center (see map# M1 on page 29 in Plan section).

Because the Scenic Drive is a one-way road, when any of the washes (Sandstone, Red Rock or Pine Creek) are affected by a flash flood or winter ice is on the high points of the road, the entire Scenic Drive must be closed to use. This happens several times every year.

The return road would allow at least a portion of the Scenic Drive, unaffected by floods or ice, to remain open at all times allowing use in the Calico Hills and Sandstone Quarry areas.

This would also provide a shortened loop for climbers and hikers recreating in the Calico Hills, over ambitious bike riders who discover the entire Scenic Drive is more than they bargained for, and road walkers and runners who occasionally prefer a shorter alternative. All of the above have been known to return against one-way traffic to avoid traveling the entire Scenic Drive. Many of those in motor vehicles who do drive the remaining portion of the Scenic Drive, do so at excessive speeds, causing unsafe conditions and detracting from the experience of others wishing to observe the scenery.

Additional Parking/Overlooks: (new construction)

Sandstone/Turtlehead - 1.5 miles past Sandstone Quarry

Trailhead for Grand Circle Trail, Upper Sandstone Wash and Turtlehead Mt. Overflow parking for Sandstone Quarry. (.52 acres)

Ranger's Choice - 1 mile past Red Rock Wash Overlook

Picnic area and alternative trailhead for Pine Creek and Ice Box. Access to Base of Escarpment Trail. (.47 acres)

INSERT MAP# M22

INSERT MAP# M23

ALTERNATIVE 2

This is the "No Action" alternative, meaning that the NCA would continue to be managed under the existing situation. Presently, the governing document for the NCA is the Interim General Management Plan (IGMP). The original intent of the IGMP was to administer the NCA until the completion of a final plan after Congress increased the size of the NCA in 1994. The planning analysis for the IGMP did not include the expanded portions of the NCA since the expansion occurred after analysis had been completed.

If this alternative were selected, issues which arise in the expansion lands would be dealt with on a case-by-case basis as necessary. This alternative provides for the management of wild horses and burros at a population level appropriate for the habitat. Existing developed waters would be available to wild horses and burros and riparian areas would be protected through fencing but new water developments would not be implemented unless approved in a future Herd Management Plan (HMA) and subsequent GMP amendment.

This alternative includes the actions listed in the Management Common To All Alternatives and the Standard Operating Procedures as well as the actions listed below.

Biodiversity - (same as Alternative 1) includes the issues concerning biodiversity, ecosystem management, and wild horses & burros

Biodiversity Preservation:

(See Management Common to All Alternatives)

Ecosystem Management:

(See Management Common to All Alternatives)

Wild Horse and Burro Management:

Wild horses would be managed within the Red Rock Herd Management Area (HMA) in their primary use area south of Bonnie Springs to south of Bird Spring and the town of Goodsprings. The remaining portion of the HMA including the area north of Bonnie Springs would be open to incidental horse use.

Burros would be managed in their primary use area from Bonnie Springs north and east to White Rock and the Red Spring area.

The remainder of the HMA would be open to incidental burro use. Burros that become acclimated to tourists and beg for food along State Route 159, creating a nuisance and public hazard would be removed.

To accommodate the public interest in wild burros within the Red Rock HMA, burro viewing areas would be developed on SR 159 (after approval by the Nevada Department of Transportation (NDOT)). These areas would be fenced to keep the burros off the highway. Information signs will be placed at each viewing area giving the history of the Red Rock animals and the 1971 Wild Free-Roaming Horse and Burro Act. No viewing areas for wild horses in Red Rock HMA or horses or burros in the Wheeler Pass HMA are planned but may be needed at a later date.

During the foaling season of March thru May, organized biking, equestrian and hiking events would not be authorized, unless specific impacts to wild horses and burros can be mitigated.

Incidental biking, riding or hiking would be permitted. Signs would be posted at all underpasses advising the public of wild horse and burro use, as well as warn them of the flood potential during storms.

Wild horse and burro numbers would be managed and maintained in a thriving natural ecological balance by conducting annual or regular herd removals. These removals would be conducted using corrals with water and/or feed as a bait to attract the animals. By doing this, only small numbers of animals would be removed at any one time.

Resolve the HMA boundary questions and determine the future status of the band that inhabits the Calico Basin area. The following factors have combined to reduce the range quality and cause habitat fragmentation in the Calico Basin area:

- habitat fragmentation due to fencing of State Route 159 and Calico Basin Road to eliminate off-road vehicle use;
- increased residential development in Calico Basin;
- rapid development of private lands on West Charleston Boulevard;
- and effective loss of the use of Red Spring, due to increased recreation use and fencing installed to aid in protection and recovery of the springsnail.

Proposed Water Developments; New, Maintenance and Re-construction

The following existing water developments currently used and maintained for wild horses and burros would be maintained (after site specific project design and environmental analysis if necessary) in the Red Rock HMA to provide additional water for wild horses and burros. No new water development projects would be implemented.

1. Mud Spring # 1 - Reconstruct the existing development

(spring box, pipeline and trough).

2. Lone Grapevine Spring - Reconstruction to capture more water and move it further off site for wild horses and burros (headbox, pipeline and trough).
3. Wilson Tank/Tunnel Spring - Complete redevelopment for improved reliability (excavation, headbox, pipeline and trough). Since this source is such a low producer and geographically critical to wildlife, water yield needs to be evaluated to determine if any water remains available after wildlife needs are satisfied.
4. Bird Spring - Install a pipeline to move water off site (away from road) to reduce human influence and improve wild horse and burros use.

The following projects may also be implemented (see Alternative 1) but they are outside of RRCNCA and would be considered in a future Herd Management Plan and RMP amendment.

5. Wells - Develop 2-3 wells with associated pipelines to distribute use and reduce pressure on natural water sources within the HMA. NOTE - All proposed locations are in the southern portion of the HMA south and east of the NCA so this proposal is not analyzed in this document. See future HMA management plan.
6. Potosi Spring and Pipeline - Develop the spring by installation of a pipeline system with multiple troughs. NOTE - This area is on private and Forest Service lands and is not analyzed in this document. See future HMA management plan.
7. Cave Spring - Complete development to move water off site for wild horses and burros (headbox, pipeline and trough). NOTE - This site is not within the NCA and is not analyzed in this document. See future HMA management plan.

Sequence of short term actions:

1. Evaluate existing and potential water sources maintenance needs, potentials and development costs. Investigate the potential for acquiring access to waters from private sources in the HMA outside of RRCNCA.
2. Maintain Tunnel (Wilson Tank) and Bird Spring developments to correct known maintenance needs, ensure more reliable water availability and move troughs away from roads.

3. Determine the carrying capacity or Appropriate Management Level (AML) for both wild horses and burros in the HMA using an interdisciplinary resource team.
4. Using the desired plant community objectives in the GMP (Chapter 3), establish the criteria (range condition, water availability, riparian health) to be monitored and analyzed.
5. Conduct a scientifically valid inventory of vegetation condition, trend and frequency to establish baseline data.
6. Complete a Herd Management Plan (HMP) for the entire HMA including both lands within and lands outside of RRCNCA.
7. Complete development of additional waters as proposed in the HMP.

Sequence of long term actions:

8. Conduct annual trend studies to determine vegetative response and progress towards meeting desired plant community objectives.
9. Conduct annual utilization studies.
10. Monitor vegetation trend, condition and utilization to ensure that desired plant community objectives are maintained.
11. Adjust animal population as required.

INSERT MAP# M24

Water, Air and Vegetative Resources - includes issues relating to riparian restoration, air quality and vegetation

Riparian Restoration:

(See Management Common to All Alternatives)

Air Quality:

(See Management Common to All Alternatives)

Vegetation:

(See Management Common to All Alternatives)

Recreation Opportunities - includes the issues concerning camping, rock climbing, target shooting, trails and dirt roads

Camping:

Dispersed camping would be allowed north of La Madre Mountain with a 14 day camping limit. (Current situation)

No camping would be allowed within 1/4 mile of any water source (natural or man made), spring, pond, or natural catchment basin with permanent water.

Target Shooting:

All of the NCA would be (is currently) closed to target shooting.

Trails:

Equestrian dispersed use is allowed.

The Oak Creek trails and the old dirt road between Willow and the Visitor Center are designated for mountain bike use as well as hiking and equestrian use.

The route (old road) that runs north-south between the Oak Creek legs is designated for equestrian use.

The trail between the Oak Creek Trailhead and Pine Creek (Arnight) and the trail between Oak Creek and Juniper Canyon are designated for hiking and equestrian use.

No trails are designated in the south expansion area (west of and including the Bird Springs Range) other than those included in the Cottonwood Valley Mountain Bike and Equestrian Trails EA.

No trails are designated north of La Madre Mountain.

The White Rock Loop, Keystone Thrust and La Madre trails are designated for hiking and equestrian use.

INSERT MAP# M25

INSERT MAP# M26

Dirt Roads:

The following maps indicate which dirt roads are to be closed and which will be left open. The status of dirt roads from La Madre Mountain south through Cottonwood Valley is the same for all alternatives and can be seen under Management Common To All Alternatives. Minor dirt routes not indicated on the maps are to be closed and used only for administrative purposes or targeted for restoration to a natural state.

Paved Roads:

No new construction of roads.

INSERT MAP# M27

INSERT MAP# M28

ALTERNATIVE 3

Alternative 3 includes actions enhancing biodiversity, with some reduction in the miles of roads remaining open and moderate enhancement of the trails network. Existing developed waters would be available to wild horses and burros and riparian areas would be protected through fencing but new water developments would not be implemented unless approved in a future Herd Management Plan (HMA) and subsequent GMP amendment.

This alternative includes the actions listed in the Management Common To All Alternatives and the Standard Operating Procedures as well as the actions listed below.

Biodiversity - includes the issues concerning biodiversity, ecosystem management, and wild horses & burros

Biodiversity Preservation:

Conduct an ongoing program of population monitoring for T&E species, Candidate species (Blue Diamond cholla) and other Special Status Species (Angelica scabrida; Calochortus striatus; Astragalus mohavensis var. hemigyrous, (peregrine and springsnail). (App. 1, Special Status Species)

Re-introduce springsnails (Pyrquulopsis deaconi and P. turbatrix) into restored Willow Spring riparian habitat. (App. 2, Priority Management Areas)

Ecosystem Management:

Identify core habitat for the Bighorn sheep herd north of SR 160 and monitor for recreation impacts in coordination with the Nevada Division of Wildlife. Implement visitor use restrictions as needed. Utilize Bighorn as an umbrella species to monitor and evaluate habitat and the potential for fragmentation due to human use in the upper elevations of the Spring Range within the NCA.

Implement strategies to minimize type conversion fires stemming from invasive exotic annual grasses.

Implement prescribed natural fire program to restore fire ecology of montane chaparral communities in escarpment canyons.

Establish a minimum response fire suppression policy for pinyon-juniper uplands to promote mosaic habitats, in coordination with the U.S. Forest Service, Spring Mountain National Recreation Area.

Wild Horse and Burro Management:

This alternative is divided into short and long term actions. Short term actions would begin upon approval of the plan. The

transition from the short term actions to long term actions would occur when; 1) the ecological condition of the plant communities and riparian areas in the area between State Route 160 and the Spring Mountain Ranch State Park approaches the desired plant community objectives, and 2) necessary improvements are in place to insure appropriate protection and management of the animals, riparian resources and vegetative condition.

The Red Rock Herd Management Area (HMA) would be amended from the boundary decision of the Las Vegas Resource Management Plan (10/98) by: 1) deleting the area north of Cave Canyon on the east side of State Route 159; 2) deleting the area north of Spring Mountain Ranch State Park on the west side of State Route 159; and 3) implementing a temporary closure to wild horse and burro use for the area between State Route 160 north to Spring Mountain Ranch State Park and west of State Route 159. The amended HMA would be implemented according to the sequence of actions listed below.

A viable wild horse population would remain in the amended HMA and be managed in their primary use area south of Spring Mountain Ranch State Park.

A viable burro population would remain in the amended HMA and be managed primarily on Blue Diamond Hill east of State Route 159 with the potential of burros also being found south of State Route 160.

Burros in the area west of State Route 159 and north of State Route 160 would be removed. This removal includes approximately 10 to 15 burros in the Calico Basin area and 10 to 15 burros in the Bonnie Springs area. The areas primarily used by the Calico Basin band (Red Spring, Calico Basin and State Route 159), are outside the HMA as shown in the HMA map, Las Vegas RMP (10/98). Following completion of fencing of the east side of State Route 159 burros from the Blue Diamond Hill band that drift down to State Route 159 and become acclimated to tourists by begging for food along State Route 159 would be removed as necessary to eliminate this nuisance and public hazard.

In the long term the wild horse and burro use would occur on the east side of State Route 159 south of Cave Canyon and on the west side of State Route 159 south of Spring Mountain Ranch State Park as described above. Wild horse and burro use would be temporarily removed from the area between State Route 160 north to the Spring Mountain Ranch State Park and west of State route 159 and reinstated when ecological condition objectives have been met.

Rational: The following factors have combined to reduce the range quality and cause habitat fragmentation in the Calico Basin/Visitor Center area:

habitat fragmentation due to fencing of State Route 159 and

Calico Basin Road in response to illegal off-road vehicle use displaced from Summerlin lands now closed to use;

increased residential development in Calico Basin;

rapid development of private lands on West Charleston Boulevard which will soon prevent any movement of burros to the east, a historic foraging area;

and effective loss of the use of Red Spring, due to increased recreation use and fencing installed to aid in recovery of the springsnail.

The following factors have combined to reduce the range quality and create a significant public safety concern in the area between Blue Diamond and Spring Mountain Ranch State Park. The proposed fencing of the east side of State Route 159 would mitigate these factors:

increased traffic associated with entry areas for the State Park and Bonnie Springs;

increased speed of traffic on State Route 159;

increased use of State Route 159 by commercial truck traffic.

Prior to burro population reductions in 1997, at least one burro was killed monthly in this area as a result of burro/vehicle collisions.

Sequence of short term actions:

1. Evaluate existing and potential water sources south of State Route 160 for maintenance needs, potentials and development costs. Investigate the potential for acquiring access to private water sources in the HMA.
2. Maintain Tunnel (Wilson Tank) and Bird Spring developments to correct known maintenance needs, ensure more reliable water availability and move troughs away from roads.
3. If possible pipe water from Lone Grapevine Spring 1.5 miles southeast under State Route 160 to provide a water source immediately south of State Route 160 eliminating the need for horses to travel north of the highway for water. This would also provide the ability to install off-site water troughs away from Lone Grapevine Spring when horses are able to be reintroduced in this area.
4. Determine the carrying capacity or Appropriate Management Level (AML) for both wild horses and burros in the HMA using an interdisciplinary resource team.

5. Remove burros located in the area west of State Route 159 and north of Spring Mt. Ranch State Park.
6. Using the desired plant community objectives in the GMP (Chapter 3), establish the criteria (range condition, water availability, riparian health) that must be monitored and analyzed in the process of determining when to allow reintroduction of wild horses and/or burros into the area north of State Route 160 and south of Spring Mountain Ranch.
7. Establish a minimum of one ten acre enclosure (660' x 660') in each identified habitat type to act as control plots for vegetation monitoring.
8. Conduct a scientifically valid inventory of vegetation condition, trend and frequency to establish baseline data.
9. Complete the fencing of the east side of State Route 159 by connecting the discontinuous existing sections of fence.
10. Develop at least two water sources for burro use in the area east of State Route 159 (Blue Diamond Hill) to reduce the desire of burros to access waters to the west and to facilitate viewing of animals by the visiting public.
11. Develop, with the Nevada Dept. of Transportation (NDOT), a fencing design capable of preventing animals from passing through the State Route 160 underpasses while not restricting flood waters. Initiate fencing.
12. Remove wild horses and any remaining burros from the area west of State Route 159 and north of State Route 160.
13. Complete a Herd Management Plan for the entire HMA including both lands within and lands outside of RRCNCA.
14. Complete development of additional waters as proposed outside of RRCNCA.

Sequence of long term actions:

15. Conduct annual trend studies to determine vegetative response, progress towards meeting desired plant community objectives and the amount of forage that would be available for wild horse use upon re-introduction.

The desired plant community objective for perennial grasses is 5 % basal cover. However, since grass

response is an unknown and meeting this objective absolutely may be difficult, or very long term, wild horse re-introduction consideration may begin when the following interim target is attained;

1) Two consecutive years where 80 % of the trend plots show 3 % or greater basal coverage by native perennial grasses.

16. Conduct annual utilization studies in areas still occupied by wild horses and burros.
17. When criteria relative to desired plant community objectives have been met, reintroduce wild horses and/or burros into the area between Spring Mountain Ranch and State Route 160 and continue protection and maintenance of fully functioning springs and riparian areas.
18. Monitor vegetation trend, condition and utilization to ensure that desired plant community objectives are maintained. In order for wild horses and/or burros to remain in this area, the percent basal coverage of perennial grasses may not drop below 3 % and continued progress towards the final objective of 5 % should be indicated in annual trend studies.
19. Adjust animal population as necessary to maintain progress towards desired plant community objectives and to maintain a viable animal population.

Proposed Water Developments; New Maintenance and Re-construction

The following existing range improvements would be maintained (after site specific project design and environmental analysis if necessary) to provide, as appropriate, reliable water for wild horses and burros, wildlife and riparian purposes.

1. Mud Spring # 1 - Maintain water for wildlife use, adjust fencing if water source is not fully included and move water trough further to the east away from fenced area and mountain bike trail.
2. Lone Grapevine Spring - Following the (short term) removal of wild horses and burros, maintain the enclosure fence but provide openings for wildlife and human (foot) access. Extend existing pipeline 1.5 miles southeast under State Route 160 to provide water for wild horse use south of State Route 160 .
3. Wilson Tank/Tunnel Spring - Complete redevelopment for improved reliability (excavation, headbox, pipeline and trough). Since this source is such a low producer and

geographically critical to wildlife, water yield needs to be evaluated to determine if any water remains available after wildlife needs are satisfied.

4. Bird Spring - Install a pipeline to move water off site (away from road) to reduce human influence and improve wild horse and burros use.

The following projects may also be implemented (see Alternative 1) but they are outside of RRCNCA and would be considered in a future Herd Management Plan and RMP amendment.

5. Wells - Develop 2-3 wells with associated pipelines to distribute use and reduce pressure on natural water sources within the HMA. NOTE - All proposed locations are in the southern portion of the HMA south and east of the NCA so this proposal is not analyzed in this document. See future HMA management plan.
6. Potosi Spring and Pipeline - Develop the spring by installation of a pipeline system with multiple troughs. NOTE - This area is on private and Forest Service lands and is not analyzed in this document. See future HMA management plan.
7. Cave Spring - Complete development to move water off site for wild horses and burros (headbox, pipeline and trough). NOTE - This site is not within the NCA and is not analyzed in this document. See future HMA management plan.
8. Water Hauls - Water hauls may be used to accelerate the process of plan implementation and to act as temporary water sources while permanent sources such as wells and pipelines are under design and development.
9. Ninety-nine Spring - Coordinate with USFS to develop and pipe water 2 ½ miles east into southern Cottonwood Valley. NOTE - This site is not within the NCA and is not analyzed in this document. See future HMA management plan.

INSERT MAP# M29

Water, Air and Vegetative Resources

Riparian Restoration:

Camouflage and close trail spurs and braids (Oak Creek; First Creek; Pine Creek; Lost Creek; Red Spring; Bootleg; Rainbow; Wheeler Camp Spring; Mud Spring #1).

Adopt a policy of discouraging recreation use in riparian habitats:

- Evaluate and rehabilitate present high use areas and minimize future promotion; deflect use to non-riparian areas.

Air Quality:

(See Management Common to All Alternatives)

Vegetation:

(See Management Common to All Alternatives)

Recreation Opportunities - includes the issues concerning camping, rock climbing, target shooting, trails and dirt roads

Camping:

Dispersed camping would be allowed north of La Madre Mountain on existing disturbed areas. If monitoring shows that additional impacts occur as a result, camping would be limited to specific designated sites.

All camping, whether dispersed or in the designated campground, would be limited to a 14 day maximum stay. (Current situation)

Dispersed camping would be allowed within 200 feet of designated roads east of the Bird Spring Range on existing disturbed areas.

No camping would be allowed within 1/4 mile of any water source (natural or man made), spring, pond, or natural catchment basin with permanent water.

Target Shooting:

The NCA would be (is currently) closed to target shooting.

Trails:

Mountain Bikes:

The Oak Creek trails would not be designated for mountain bike use.

Designate the Blue Diamond to Jean route (portion within NCA) that has been used annually for a group ride event.

Designate the "Twilight Zone" trails north of the Kyle Canyon road.

Road bikes:

Pave the old road between Sandstone Quarry and Willow Spring to provide an alternative to the Scenic Drive between these two points. This will eliminate the most dangerous sections of the Scenic Drive and reduce the number of riders who turn around and ride the wrong way after being defeated by the steep hills beyond Sandstone Quarry.

Equestrian:

Restrict equestrian use to designated trails within the original NCA boundary (south of La Madre Mountain to the USFS/BLM common boundary 3 miles south of SR 160).

Designate the following routes and trails to include equestrian use:

- White Rock loop and Keystone Thrust trails - provide a water trough near the intersection of Rocky Gap Road and the La Madre trailhead;
- the Oak Creek trails;
- the trail between Oak Creek and Juniper Canyon (the Knoll Trail);
- the trail between Juniper Canyon and Pine Creek (a portion of the Arnicht Trail);
- the old road from Willow to the Visitor Center;
- the old road beginning at the Scenic Drive/Oak Creek Road junction and following the ridge just south of Pine Creek;
- the Blue Diamond to Jean route (portion within NCA) which has been used for an annual equestrian ride event;
- the existing equestrian route from First Creek to Lost Creek, out away from the base of the escarpment;
- the loop route directly north of Red Rock Vista;

- the existing routes from the Scenic Drive exit lot to adjacent trails;

Designate equestrian staging areas at the Scenic Drive exit lot and the Oak Creek Campground location (when the campground is relocated).

Construct a separate parallel Red Valley trail specified for equestrian use to separate mountain bikes and horse users in this narrow valley.

Hike Only:

Designate the following trails for hiking use only:

- the La Madre Spring (spur) Trail north of the intersection with the White Rock Loop Trail;
- the Arnight Trail from the North Oak Creek trailhead to the intersection with the Knoll Trail;
- the trail between Pine Creek and Ice Box (the Dale Trail);
- the trail between Ice Box and Lost Creek (the SMYC Trail).

INSERT MAP# M30

INSERT MAP# M31

Dirt Roads:

The following maps indicate which dirt roads are to be closed and which will be left open. The status of dirt roads from La Madre Mountain south through Cottonwood Valley is the same for all alternatives and can be seen under Management Common To All Alternatives. Minor dirt routes not indicated on the maps are to be closed and used only for administrative purposes or targeted for restoration to a natural state.

The access road to Cottontail will remain open to that location and closed beyond.

Paved Roads:

Construct a 2.65 mile return road from Sandstone Quarry to the Visitor Center (see map# M1 on page 29 in Plan section).

Because the Scenic Drive is a one-way road, when any of the washes (Sandstone, Red Rock or Pine Creek) are affected by a flash flood or winter ice is on the high points of the road, the entire Scenic Drive must be closed to use. This happens several times every year.

The return road would allow at least a portion of the Scenic Drive, unaffected by floods or ice, to remain open at all times allowing use in the Calico Hills and Sandstone Quarry areas.

This would also provide a shortened loop for climbers and hikers recreating in the Calico Hills, over ambitious bike riders who discover the entire Scenic Drive is more than they bargained for, and road walkers and runners who occasionally prefer a shorter alternative. All of the above have been known to return against one-way traffic to avoid traveling the entire Scenic Drive. Many of those in motor vehicles who do drive the remaining portion of the Scenic Drive, do so at excessive speeds, causing unsafe conditions and detracting from the experience of others wishing to observe the scenery.

INSERT MAP# M32

INSERT MAP# M33

ALTERNATIVE 4

This alternative emphasizes biodiversity, including riparian restoration, biological preservation, and ecosystem management.

Emphasis would be placed on rehabilitating and ensuring proper functioning condition for riparian areas and providing adequate water for native wildlife. Less emphasis would be placed on maintaining water developments for wild horse and burro use. The miles of roads left open is lower than in any other alternative and the fewest recreation enhancements are proposed.

This alternative includes the actions listed in the Management Common To All Alternatives and the Standard Operating Procedures as well as the actions listed below.

Biodiversity - includes the issues concerning biodiversity, ecosystem management, and wild horses & burros

Biodiversity Preservation:

Conduct an ongoing program of population monitoring for T&E species, Candidate species (Blue Diamond cholla) and other Special Status Species (Angelica scabrida; Calochortus striatus; Astragalus mohavensis var. hemigyrous, (peregrine and springsnail). (App. 1, Special Status Species)

Re-introduce springsnails (Pyrqulopsis deaconi and P. turbatrix) into restored Willow Spring riparian habitat. (App. 2, Priority Management Areas)

Ecosystem Management:

Identify core habitat for the Bighorn sheep herd north of SR 160 and monitor for recreation impacts in coordination with the Nevada Division of Wildlife. Implement visitor use restrictions as needed. Utilize Bighorn as an umbrella species to monitor and evaluate habitat and the potential for fragmentation due to human use in the upper elevations of the Spring Range within the NCA.

Implement strategies to minimize type conversion fires stemming from invasive exotic annual grasses.

Implement prescribed natural fire program to restore fire ecology of montane chaparral communities in escarpment canyons.

Establish a minimum response fire suppression policy for pinyon-juniper uplands to promote mosaic habitats, in coordination with the U.S. Forest Service, Spring Mountain National Recreation Area.

Wild Horse and Burro Management:

The Red Rock Herd Management Area (HMA) would be amended from

the boundary decision of the Las Vegas Resource Management Plan (10/98) by the deletion of the area north of State Route 160. The State Route 160 control fences create a physical boundary to wild horse and burro movement and use.

A viable wild horse population would remain in the HMA and be managed within the portion of their existing primary use area south of State Route 160.

A viable burro population would remain and be managed within the HMA south of State Route 160.

All burros and horses north of State Route 160 would be removed.

An exception to the removal may be made for the four wild horses that live in and have been unofficially "adopted" by Blue Diamond if forage studies show that these animals can survive and thrive within the narrow Blue Diamond/Wheeler Camp Spring/Oliver Ranch corridor along State Route 159 that they occupy. Should the residents of Blue Diamond decide that they no longer want these horses living on/in community areas, they would be removed since the ball field grass appears to be a major food source for these animals.

Rational: The following factors have combined to reduce the range quality and habitat available in the Calico Basin/Visitor Center area:

- habitat fracturing due to fencing of State Route 159 and Calico Basin Road in response to illegal off-highway vehicle use displaced from Summerlin private lands now closed off;
- increased residential development in Calico Basin;
- rapid development of private lands on West Charleston Boulevard which will soon prevent any movement of burros to the east, an area historically used for foraging;
- and effective loss of the use of Red Spring, due to increased recreation use and fencing installed to aid in recovery of the Spring Snail.

The following factors have combined to reduce the range quality and create a significant public safety concern in the area between Blue Diamond and Spring Mountain Ranch State Park:

- increase traffic associated with entry areas for the State Park and Bonnie Springs;

- increased speed of traffic on State Route 159;
- increased use of State Route 159 by commercial truck traffic.

Prior to population reductions in 1997, at least one burro was killed monthly as a result of burro/vehicle collisions.

Proposed Water Developments; New, Maintenance or Re-construction

The following existing water developments currently used and maintained for wild horses and burros would be maintained (after site specific project design and environmental analysis if necessary) to provide reliable water for wild horses and burros. No new water project development would occur.

8. Wilson Tank/Tunnel Spring - Complete redevelopment for improved reliability (excavation, headbox, pipeline and trough). Since this source is such a low producer and geographically critical to wildlife, water yield needs to be evaluated to determine if any water remains available after wildlife needs are satisfied.
9. Bird Spring - Install a pipeline to move water off site (away from road) to reduce human influence and improve wild horse and burros use.

The following projects may also be implemented (see Alternative 1) but they are outside of RRCNCA and would be considered in a future Herd Management Plan and RMP amendment.

10. Wells - Develop 2-3 wells with associated pipelines to distribute use and reduce pressure on natural water sources within the HMA. NOTE - All proposed locations are in the southern portion of the HMA south and east of the NCA so this proposal is not analyzed in this document. See future HMA management plan.
11. Potosi Spring and Pipeline - Develop the spring by installation of a pipeline system with multiple troughs. NOTE - This area is on private and Forest Service lands and is not analyzed in this document. See future HMA management plan.
12. Cave Spring - Complete development to move water off site for wild horses and burros (headbox, pipeline and trough). NOTE - This site is not within the NCA and is not analyzed in this document. See future HMA management plan.

Sequence of short term actions:

1. Evaluate existing and potential water sources south of State Route 160 for maintenance needs, potentials and development costs. Investigate the potential for acquiring access to waters from private sources in the HMA outside of RRCNCA.
2. Maintain Tunnel (Wilson Tank) and Bird Spring developments to correct known maintenance needs, ensure more reliable water availability and move troughs away from roads.
3. If technically feasible, extend the existing Lone Grapevine Spring pipeline 1.5 miles southeast under State Route 160 to provide a water source immediately south of State Route 160 eliminating the need for horses to travel north of the highway for water.
4. Determine the carrying capacity or Appropriate Management Level (AML) for both wild horses and burros in the HMA using an interdisciplinary resource team.
5. Remove wild horses and burros located north of State Route 160.
6. Using the desired plant community objectives in the GMP (Chapter 3), establish the criteria (range condition, water availability, riparian health) to be monitored and analyzed.
7. Establish a minimum of one ten acre exclosure (660' x 660') in each identified habitat type to act as control plots for vegetation monitoring.
8. Conduct a scientifically valid inventory of vegetation condition, trend and frequency to establish baseline data.
9. Complete a Herd Management Plan (HMP) for the entire HMA including both lands within and lands outside of RRCNCA.
10. Complete development of additional waters as proposed in the HMP.

Sequence of long term actions:

11. Conduct annual trend studies to determine vegetative response and progress towards meeting desired plant community objectives.
12. Conduct annual utilization studies in areas still occupied by wild horses and burros.

13. Monitor vegetation trend, condition and utilization to ensure that desired plant community objectives are maintained.
14. Adjust animal population as required.

INSERT MAP# M34

Water, Air and Vegetative Resources

Riparian Restoration:

Camouflage and close trail spurs and braids (Oak Creek; First Creek; Pine Creek; Lost Creek; Red Spring; Bootleg; Rainbow; Wheeler Camp Spring; Mud Spring #1).

Adopt a policy of discouraging recreation use in riparian habitats:

- Evaluate and rehabilitate present high use areas and minimize future promotion; deflect use to non-riparian areas.

Air Quality:

(See Management Common to All Alternatives)

Vegetation:

(See Management Common to All Alternatives)

Recreation Opportunities - includes the issues concerning camping, rock climbing, target shooting, trails and dirt roads

Camping:

No camping would be allowed south of SR 160.

Dispersed camping would be allowed north of La Madre Mountain on existing disturbed areas. If monitoring shows that additional impacts occur as a result, camping would be limited to specific designated sites.

Dispersed camping would be limited to a maximum of 7 days and a maximum group size of 10 people. Groups of more than 10 people would be required to use the Mile 13 Campground.

No camping would be allowed within 1/4 mile of any water source (natural or man made), spring, pond, or natural catchment basin with permanent water.

Target Shooting:

The NCA would be (is currently) closed to target shooting.

Trails:

Mountain Bikes:

Mountain bikes would not be allowed on any trails between Spring Mountain Ranch State Park and La Madre Mountain.

Designate the Blue Diamond to Jean route (portion within NCA) that has been used annually for a group ride event.

Designate the "Twilight Zone" trails north of the Kyle Canyon road.

Modify existing and proposed trails to avoid springs and riparian areas.

Equestrian:

Restrict equestrian use to designated trails within the area south of La Madre Mountain to the USFS/BLM common boundary 3 miles south of SR 160.

Designate the following routes and trails to include equestrian use:

- the Oak Creek trails;
- the Blue Diamond to Jean route (portion within NCA) which has been used for an annual equestrian ride event;
- the existing equestrian route from First Creek to Lost Creek, out away from the base of the escarpment;
- the loop route directly north of Red Rock Vista;
- the existing routes from the Scenic Drive exit lot to adjacent trails;

Designate equestrian staging areas at the Scenic Drive exit lot and the Oak Creek Campground location (when the campground is relocated).

Construct a separate paralleling Red Valley trail specified for equestrian use to separate mountain bikes and horses in this narrow valley.

Hike Only:

Designate the following trails for hiking use only:

- the White Rock Loop Trail (except road portion);
- the La Madre and Keystone Thrust trails;
- the Arnight Trail from the North Oak Creek trailhead to Pine Creek;

- The Base of the Escarpment Trail System composed of the following:
 - the trail between Oak Creek and Juniper Canyon (Knoll Trail);
 - the trail between Juniper Canyon and Pine Creek (a portion of the Arnicht Trail);
 - the trail between Pine Creek and Ice Box (Dale Trail);
 - the trail between Ice Box and Lost Creek (SMYC Trail).

INSERT MAP# M35

INSERT MAP# M36

Dirt Roads:

The following maps indicate which dirt roads are to be closed and which will be left open. The status of dirt roads from La Madre Mountain south through Cottonwood Valley is the same for all alternatives and can be seen under Management Common To All Alternatives. Minor dirt routes not indicated on the maps are to be closed and used only for administrative purposes or targeted for restoration to a natural state.

Paved Roads:

No new construction of paved roads.

INSERT MAP# M37

INSERT MAP# M38

ALTERNATIVE 5

This alternative emphasizes biodiversity enhancement. Included are specific actions designed to enhance riparian restoration, biological preservation, and ecosystem management. Emphasis would be placed on rehabilitating and ensuring proper functioning condition for riparian areas and providing adequate water for native wildlife. Recreational access and proposed facilities are concentrated within the developed Scenic Drive area. The miles of roads remaining open, while still substantial, is reduced to a minimum and limited recreation enhancements and developments are proposed.

This alternative includes the actions listed in the Management Common To All Alternatives and the Standard Operating Procedures as well as the actions listed below.

Biodiversity - includes the issues concerning biodiversity, ecosystem management, and wild horses & burros

Biodiversity Preservation:

Conduct an ongoing program of population monitoring for T&E species, Candidate species (Blue Diamond cholla) and other Special Status Species (Angelica scabrida; Calochortus striatus; Astragalus mohavensis var. hemigyrous, (peregrine and springsnail). (App. 1, Special Status Species)

Re-introduce springsnails (Pyrqulopsis deaconi and P. turbatrix) into restored Willow Spring riparian habitat. (App. 2, Priority Management Areas)

Ecosystem Management:

Identify core habitat for the Bighorn sheep herd north of SR 160 and monitor for recreation impacts in coordination with the Nevada Division of Wildlife. Implement visitor use restrictions as needed. Utilize Bighorn as an umbrella species to monitor and evaluate habitat and the potential for fragmentation due to human use in the upper elevations of the Spring Range within the NCA.

Implement strategies to minimize type conversion fires stemming from invasive exotic annual grasses.

Implement prescribed natural fire program to restore fire ecology to montane chaparral communities in the escarpment canyons.

Establish a minimum response fire suppression policy for pinyon-juniper uplands to promote mosaic habitats, in coordination with the U.S. Forest Service, Spring Mountain National Recreation Area.

Wild Horse and Burro Management:

The Red Rock Herd Management Area (HMA) would be amended from the boundary decision of the Las Vegas Resource Management Plan (10/98) by the deletion of the lands within the NCA from the HMA.

A viable wild horse population could remain in the amended HMA but the proposed well developments would be critical to this since there are no significant water sources in the (non-NCA) southern portion of the HMA.

A viable burro population could be maintained in the amended HMA but this is not currently a primary or often used burro use area.

Remove all wild horses and burros from the area which would no longer be a part of the Red Rock Herd Management Area.

Rational for recommendation: The viability of maintaining wild horse and burros populations in the NCA has been seriously compromised by the following factors which are described in more detail in Chapter 3:

1. Reduced range quality and habitat fragmentation due to fencing and development (see Map * HMA Fragmentation);

The NCA portion of the HMA which in 1971 was relatively undeveloped and open to access is now subdivided into numerous small pieces due to the fencing of State Highways and County roads to improve public safety and/or limit off-road vehicle use. Only the area (south) between State Route 160 and Goodsprings remains free of barriers to horse and burro movement.

The band of burros which concentrate in the Calico Basin/Gateway Canyon area may be the most affected by this situation. This band regularly used private lands several miles east of the NCA for foraging (they had been seen as far away as the junction of Sahara and Durango).

However, this area is now undergoing rapid residential development. Construction in Summerlin adjacent to the NCA's eastern boundary will soon prevent any movement of these animals to the east. Development of Summerlin has also had a secondary effect on the burros as desert access is reduced and off-highway vehicle users have moved into the NCA. This use is illegal in the NCA but the only way to control it is to fence State Route 159 to prevent vehicles from leaving it. This has already been necessary in some areas and will further restrict burro movement and access to forage.

2. Natural water sources are unreliable and do not produce sufficient water to maintain a viable population;

In the area used by wild horses, four springs, Tunnel (Wilson Tank), Shovel and Mud #1 & 2, all go dry periodically and are unreliable. Water has been hauled to Tunnel Spring (Wilson Tank) in 1991/92 and 1998 and to Mud #1 in 1998 when they went dry. (App. 11, Spring Discharge Measurements)

Lone Grapevine Spring north of State Route 160 and Bird Spring in the very southeastern corner of the NCA are the only two springs in the area used by wild horses that have reliable flows.

3. Wild horse use has caused significant and substantial damage to springs and riparian areas.

Field monitoring in 1996 and 1997 showed substantial damage to the riparian areas at Lone Grapevine and Shovel Springs. The riparian vegetation around the spring sources was completely disturbed and soil stability damaged by hoof action. Both springs and their riparian areas were fenced in September of 1997. Lone Grapevine has shown significant recovery while Shovel Spring is responding less quickly due to greater damage and loss of vegetation. (App. 15, Part C., Disturbed Habitat Areas, Feral Horse and Burro Impacts). If this alternative is implemented, these fences could be removed as the impact source, wild horses and burros, would have been removed.

This would return the area to a more natural state and be more consistent with the IMP.

Bird and Tunnel Spring are examples of indirect wild horse and burro impacts. Both springs have been fenced and the water production has been entirely piped to tanks and troughs. Consequently, there is no riparian area at either spring.

Proposed Water Developments; New, Maintenance or Re-construction

The following existing water developments currently used and maintained for wild horses and burros would be re-constructed (after site specific project design and environmental analysis if necessary) to provide reliable water for wildlife and riparian purposes:

13. Wilson Tank/Tunnel Spring - Complete redevelopment for improved reliability (excavation, headbox, pipeline and trough).

14. Bird Spring - Install a pipeline to move water off site (away from road) to reduce human influence.

The following projects may also be implemented (see Alternative 1) but they are outside of RRCNCA and would be considered in a future Herd Management Plan and RMP amendment.

15. Wells - Develop 2-3 wells with associated pipelines to distribute use and reduce pressure on natural water sources within the HMA. NOTE - All proposed locations are in the southern portion of the HMA south and east of the NCA so this proposal is not analyzed in this document. See future HMA management plan.
16. Potosi Spring and Pipeline - Develop the spring by installation of a pipeline system with multiple troughs. NOTE - This area is on private and Forest Service lands and is not analyzed in this document. See future HMA management plan.
17. Cave Spring - Complete development to move water off site for wild horses and burros (headbox, pipeline and trough). NOTE - This site is not within the NCA and is not analyzed in this document. See future HMA management plan.

Sequence of short term actions:

1. Maintain Tunnel (Wilson Tank) and Bird Spring developments for wildlife and riparian purposes to correct known maintenance needs, ensure more reliable water availability and move troughs away from roads. Assume that some use by wild horses and/or burros drifting up from the HMA to the south would occur.
2. Remove wild horses and burros located in the area north of State Route 160.
3. Using the desired plant community objectives in the GMP (Chapter 3), establish the criteria (range condition, water availability, riparian health) to be monitored and analyzed.
4. Establish a minimum of one ten acre enclosure (660' x 660') in each identified habitat type to act as control plots for vegetation monitoring.
5. Conduct a scientifically valid inventory of vegetation condition, trend and frequency to establish baseline data.
6. Remove wild horses and burros from RRCNCA north of

Cottonwood Pass.

7. Complete development of additional waters as proposed outside of RRCNCA.

Sequence of long term actions:

8. Conduct annual trend studies to determine vegetative response and progress towards meeting desired plant community objectives.
9. Conduct annual utilization studies.
10. Monitor vegetation trend, condition and utilization to ensure that desired plant community objectives are maintained.

INSERT MAP# M39

Water, Air and Vegetative Resources - includes issues relating to riparian restoration, air quality and vegetation

Riparian Restoration:

Camouflage and close trail spurs and braids (Oak Creek; First Creek; Pine Creek; Lost Creek; Red Spring; Bootleg; Rainbow; Mormon Green #1; Wheeler Camp Spring; Mud Spring #1).

Adopt a policy of discouraging recreation use in riparian habitats:

- Evaluate and rehabilitate present high use areas and minimize future promotion; deflect use to non-riparian areas.

Air Quality:

(See Management Common to All Alternatives)

Vegetation:

(See Management Common to All Alternatives)

Recreation Opportunities - includes the issues concerning camping, rock climbing, target shooting, trails and dirt roads

Camping:

Dispersed camping would be allowed north of La Madre Mountain on existing disturbed areas. If monitoring shows that additional impacts occur as a result, camping would be limited to specific designated sites.

All camping, whether dispersed or in the designated campground, is limited to a 14 day maximum stay. (Current policy)

East of the Bird Spring Range dispersed camping would be limited to existing disturbed areas within 200 feet of designated roads.

No camping would be allowed within 1/4 mile of any water source (natural or man made), spring, pond, or natural catchment basin with permanent water.

Target Shooting:

The NCA would be closed to target shooting (present policy).

Trails:

Mountain Bikes:

Mountain bikes would not be allowed on any trails between Spring Mountain Ranch State Park and La Madre Mountain.

Designate for mountain bike use the Blue Diamond to Jean trail (portion within NCA) that has been used annually for a group ride event.

Designate the "Twilight Zone" mountain bike trails north of the Kyle Canyon road.

Modify existing and proposed trails to avoid springs and riparian areas.

Road bikes:

Pave the old road between Sandstone Quarry and Willow Spring to provide an alternative to the Scenic Drive between these two points. This will eliminate the most dangerous sections of the Scenic Drive and reduce the number of riders who turn around and ride the wrong way after being defeated by the steep hills beyond Sandstone Quarry.

Equestrian:

Restrict equestrian use to designated trails between La Madre Mountain south to the USFS/BLM common boundary 3 miles south of SR 160.

Designate the following routes and trails to include equestrian use:

- White Rock loop and Keystone Thrust trails - provide a water trough near the intersection of Rocky Gap Road and the La Madre trailhead;
- the Oak Creek trails;
- the old road from Willow to the Visitor Center;
- the old road beginning at the Scenic Drive/Oak Creek Road junction and following the ridge just south of Pine Creek;
- the Escarpment Base Trail between Pine Creek and Oak Creek;
- the Blue Diamond to Jean route (portion within NCA) which has been used for an annual equestrian ride event;
- the existing equestrian route from First Creek to Lost Creek, out away from the base of the escarpment;

- the loop trail route directly north of Red Rock Vista;
- the existing trails from the Scenic Drive exit lot to adjacent trails;

Designate horse trailhead/staging areas at the Scenic Drive exit lot, the lower White Rock parking lot and the Oak Creek Campground location (when the campground is relocated).

Construct a separate paralleling Red Valley trail for equestrian use (no mountain bikes) to separate horses and mountain bikes in this narrow corridor.

Hike Only:

Designate the following trails for hiking use only:

- the Arnight Trail from the North Oak Creek trailhead to Pine Creek;
- the La Madre Trail Spring (spur) Trail north of the intersection with the White Rock Loop Trail;
- the trail between Pine Creek and Ice Box (Dale Trail);
- between Ice Box and Lost Creek (SMYC Trail).

INSERT MAP# M40

INSERT MAP# M41

Dirt Roads:

The following maps indicate which dirt roads are to be closed and which will be left open. The status of dirt roads from La Madre Mountain south through Cottonwood Valley is the same for all alternatives and can be seen under Management Common To All Alternatives. Short minor routes not indicated on the maps are to be closed and used only for administrative purposes or restored to a natural state.

The access road to the Cottontail area will remain open to that location and closed beyond.

Paved Roads:

Construct a 2.65 mile return road from Sandstone Quarry to the Visitor Center (see map# M1 on page 29 in Plan section).

Because the Scenic Drive is a one-way road, when any of the washes (Sandstone, Red Rock or Pine Creek) are affected by a flash flood or winter ice is on the high points of the road, the entire Scenic Drive must be closed to use. This happens several times every year.

The return road would allow at least a portion of the Scenic Drive, unaffected by floods or ice, to remain open at all times allowing use in the Calico Hills and Sandstone Quarry areas.

This would also provide a shortened loop for climbers and hikers recreating in the Calico Hills, over-ambitious bike riders who discover the entire Scenic Drive is more than they bargained for, and road walkers and runners who occasionally prefer a shorter alternative. All of the above have been known to return against one-way traffic to avoid traveling the entire Scenic Drive. Many of those in motor vehicles who do drive the remaining portion of the Scenic Drive, do so at excessive speeds, causing unsafe conditions and detracting from the experience of others wishing to observe the scenery.

INSERT MAP# M42

INSERT MAP# M43